A STRATEGIC APPROACH TO EFFECTIVE WORKPLACE SURVEILLANCE

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T.E.A.M. Medical was formed in 1987 under the tutelage of Dr. James K. Ross, Medical Director for Ashland Inc., from his firm belief that "**T**ogether **E**veryone **A**chieves **M**ore". This concept has evolved into a viable strategic approach to effective workplace surveillance, committed to compliance, analysis, and customer satisfaction. Ashland's T.E.A.M. Medical clearly understands the clear distinction between periodic screening exams and medical surveillance, and consistently applies this distinction to a variety of workplaces.

Ashland has external customers as well as the expected customers from the internal business units. Over the past 12 years, Ashland has provided high quality occupational medicine services to employees from a variety of industries, including: petroleum, chemical, mining, construction, marine, aviation, and transportation. However, the initial primary focus of its best practice surveillance program was within the setting of a highly industrialized refining workplace.

The strategic approach to effective workplace surveillance first defines the level of service based upon the requirements. Then, in order to support this program, acquire the necessary resources. From this standpoint, the development of an effective and efficient system was mandated in order to provide the level of quality service, as determined by the requirements. Often resources, which are limited, drive the level of service offered to achieve compliance, but this approach frequently lowers the quality. T.E.A.M. Medical identified core competencies leading to a successful paradigm change. Program Compliance combined with Effective Analysis determines Customer Satisfaction, which in turn influences program sustainability.

The T.E.A.M. Medical paradigm utilizes three phases for ensuring program consistency and sustainability: Logistics, Process, and Analysis. Each has its own functioning time-line; however, it may difficult to identify a specific phase since they do have considerable overlap. T.E.A.M. Medical typically operates in different phases for separate customers simultaneously.

Program flexibility is also a major tool in T.E.A.M. Medical's continued success in total customer satisfaction. T.E.A.M. Medical is able to package a workplace surveillance program, from including all three phases as a full service package to providing consultation on how to improve existing workflow, in order to suit both the customer's requirements and resources without compromising service. This ability to design a program specifically for the customer has given Ashland's T.E.A.M. Medical a unique role in providing benefits to both employees and management in one valuable program.

Logistics

Logistics is primarily a pre-visit phase and typically occurs from weeks to months prior to the actual visit.

Identification of surveillance participants and their respective health monitoring programs (Medical Evaluation Group) is accomplished through exposure-driven algorithms, based upon exposure, job classification and work area. Once the workload is established, determining the best method of service delivery, either via an onsite mobile clinic or utilization of a local, fixed clinical facility is chosen. T.E.A.M. Medical operates two mobile clinics for onsite service. The smaller clinics are extremely cost-effective at smaller facilities. After dates for the clinical visit are established, with the facility creates an individual employee appointment schedule.

Coordination of phlebotomy services at the work-site is accomplished utilizing a nation-wide reference laboratory, with the Columbus, OH lab considered as Ashland's primary testing facility. All laboratory results are obtained within a 36-hour window, since all results are electronically downloaded directly into the database, as well as a hard copy printed at the Ashland Medical Affairs office.

Sufficient pertinent medical forms are provided to the customer to facilitate participant completion prior to the exam portion of the visit. All forms are in a scannable format to provide efficient download into the database. Based upon required and requested services, medical history is provide through completion of either: the A♥L♥I♥V♥E♥ & WELL Health Surveillance Questionnaire or the Interval Short Form Questionnaire. The A♥L♥I♥V♥E♥ & WELL Health Surveillance Questionnaire consists of over 200 selected medical history questions, including both personal and family medical history, as well as having a testing and examination portion included.

The Interval Short Form Questionnaire is a set of over 75 personal medical history questions, primarily focused on the state of health since the last examination provided by the company for regulatory compliance.

Other potential forms include: PhysiScan, a US DOT Physical Examination Form with supplemental history questionnaire; RespiScan, a Federal respirator questionnaire which meets all Federal requirements; and the Occupational Exam, designed to be used with the Interval Short Form Questionnaire.

Process

Well-defined workflow has been mapped and is a critical phase of T.E.A.M. Medical's program for ensuring service consistency. It primarily occurs within minutes of the beginning of the visit and may extend into weeks post-visit. After identification of the medical requirements, well-traveled and seasoned technicians and examiners perform a standardized screening examination conforming to the respective Medical Evaluation Group, utilizing a consistent and validated data collection process.

For all potential health problems and significant individual risks identified during the examination process, participants are encouraged to follow-up with their personal health care professional. Unusual or urgent health problems are referred for immediate resolution, either by their personal health care provider or by local emergency services.

Laboratory results are reviewed with the participant, during the exam process, identifying results which are outside normal range values or those requiring further evaluation. The participant is provided with a copy of the point-of-service qualification letter, which indicates a status of either Fully Qualified, Qualified with Limitations, Pending Qualification or Not Qualified for each Medical Evaluation Group enrolled. In addition to a copy of the letter of qualification, the participant departs with signed copies of all testing accomplished during the visit. Each employee is encouraged to have these results incorporated into their personal health record, maintained by their personal health care provider.

After the facility visit is completed, the participant receives a letter reaffirming the qualification of the respective Medical Evaluation Group, such as Emergency Response, Respiratory Protection, Benzene, Asbestos and Hearing Conservation. Additionally, the employee receives a Lifestyle Risk Index Score (LRIS), which estimates a standardized health risk, utilizing key lifestyle health indices, including:, smoking history, blood pressure, lipid panel, body mass index, and glucose.

All forms (history, testing and examination) are in a "Bubble" format, which allows for all data to be scanned into the database repository. Laboratory results are electronically downloaded directly into the database, linked to other examination results for each participant, permitting effective data analysis during the medical surveillance process.

ANALYSIS

Successful medical surveillance depends upon effective analysis. Effective analysis begins early in the development of the health monitoring, ensuring that pertinent results are gathered for effective prospective analysis. Post-visit compilation of analysis tool results leads to a successful program. A sampling of these tools follows.

Question Validation

T.E.A.M. Medical has validated medical history questions over a 12-year period by age and gender, "normalizing" population data and thus, allowing for population comparison through statistical methodology. Question validation has created expected "norms" for

many different populations and has identified key questions, which T.E.A.M. Medical considers surrogate indicators for health and are monitored closely for trends in all populations. Because T.E.A.M. Medical has provided Occupational Medicine services within multiple industries, the question validation affords the opportunity to not only analyze individual data over time but also analyze population data for trends, both within the same facility or industry and between other facilities or industries.

Indirect Surrogate of Health

A "Statement of Current Health" was first investigated by the National Institute of Health in 1984, during the process of gathering population census data. T.E.A.M. Medical conducted similar analysis in 1992, 1999 and 2000 on this question, which proved to be consistent among a variety of populations. Such continuity of findings allows for the establishment of a benchmark, which has made the "Statement of Current Health" question a key surrogate indicator for population health. T.E.A.M. Medical has validated over 200 medical history questions alone in this manner.

Compliance Tool

The Plant Manager's Report is a tool provided to management at the end of a visit to summarize population data. It also becomes a consolidated record of regulatory compliance by itemizing the program qualification status for all pertinent employees.

Summary Reports

The QuickLook Report is a document, which summarizes selected health information relating to the entire population from specific visit. It provides the ability to rapidly review results or medical history issues, such as: hypertension; body mass index; Statement of Health; pulmonary functions tests; a Standard Threshold Shift from an audiogram; smoking history; coughing history; surgery; headache history; work-related problems, such as skin, respiratory, eye or throat); chemical exposures; carpal tunnel symptoms; diabetes history; and medication history. In addition to quickly assessing results of individual participants, there is a segment of the QuickLook Report which displays the question validation score. This score is a result of comparing specific questions for response consistency and will validate the accuracy of the responses by the employee.

Excess Benefit Cost

The Excess Health Benefits Cost report identifies those employees with abnormal results due to lifestyle habits. These employees receive a score based upon the severity of abnormalities, which then is converted to a predicted dollar amount that will be spent for additional health benefits for that specific employee. Ideally this report is utilized to identify health issues for targeting by a Wellness Program and in return, predicting cost savings from a successful Wellness Program.

Utilizing these tools creates the ability to assess current health-related programs or assist in identifying needed health programs among a specific population. Making a direct

relationship between health and productivity or health and profitability allows T.E.A.M. Medical to provide proactive, measurable contributions to the organization. Providing specific short and long-term predictions of productivity and profitability based on medical information affords Occupational Medicine the opportunity to have an invaluable role within management's strategic decision-making process.